

# Nutritional Knowledge and Dietary Habits of National Basketball Men's Team in Sri Lanka

K. A. A. Ishani, S. Weerasinghe

Department of Sports Science, University of Sri Jayewardenepura, Nugegoda, Sri Lanka

## ABSTRACT

Nutrition has a direct impact on the performance of national-level basketball players. This study aimed to examine the nutrition knowledge and dietary habits of national basketball male athletes. The sample included 30 subjects (age range: 20-25 years; mean BMI: 22.1 kgm<sup>-2</sup>) who represented Sri Lankan men's national basketball team. The sports nutrition knowledge and dietary habits of participants were assessed using a self-administered questionnaire. Nutrition knowledge questions focused on energy and refuelling, hydration, supplements and protein intake. The mean nutritional knowledge score of participants was 53%. Participants' knowledge of supplements was inadequate (mean score for the section: 37%). Regarding dietary habits, 19 participants (63%) consumed high-carbohydrate foods after training/competitions while majority of athletes consumed high-protein foods before (n=16, 53%) and after (n=21, 70%) training/competition. Meal skipping was not common in all participants. The majority of participants (n=28, 93%) consumed fluids before, during and after exercise. Fourteen participants (47%) reported consuming alcohol. Dietary supplements use was reported in 43% of participants (n=13). It can be concluded that the participants of this study showed a moderate level of sports nutrition knowledge. Overall, the national male basketball players showed healthy dietary habits that help improve sports performance.

**KEYWORDS:** Basketball, Dietary habits, Nutritional knowledge

## INTRODUCTION

Basketball is rapidly becoming popular more than any of the other sports all around the world. Especially in developing countries like Sri Lanka, basketball has a fast growth rate and it dominates the whole sports industry. Nutrient deficiencies may lead to the poor performance of athletes. According to (Keith, 2013) experts in sports nutrition know that "diet significantly influences athletic performance" and that "all athletes should adapt specific nutritional strategies before, during and after training and competition to maximize their mental and physical performance". The maintaining hydration before, during and after the competition or training is vital for satisfactory performance in basketball. Lack of nutritional knowledge and poor dietary habits could be some reasons for national basketball players' inability to win at international level. The main objective of this study was to examine the nutritional knowledge and dietary habits of national basketball men's team in Sri Lanka.

### Nutrition Knowledge

Nutrition knowledge can influence dietary choices and impact athletic performance. Nutrition forms the foundation for physical performance; it provides the fuel for biological work and the chemicals for extracting and using food's potential energy. Adequate nutritional intake is important to support training and to optimize performance of athletes. Nutrition knowledge has been shown to play an important role in adopting optimal nutrition practice. Proper nutrient intake corresponds to peak physical performance and that nutrient deficiencies may lead to diminished athletic performance (Keith, 2013).

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(Michelle, Laura, Clare, Sheila, & Ruth, 2011) analyzed the nutritional knowledge of the senior schoolboy rugby players in Ireland. The researchers identified that players had insufficient nutritional knowledge and nutritional information is necessary to increase awareness.

(Leva, John, & Tony, 2015) explained that the nutrition knowledge of American Rugby league players was adequate for dietary advice section but poorer for food groups classification and food choice sections. This study suggested that the players' knowledge of the nutrients should increase. (Grete, Carol, & Jane, 2011) discussed about the nutrient knowledge of the collegiate softball players of the Mid-American Conference. The research has consistently shown that athletes make poor nutrition choices and have a below average understanding of their nutritional needs. The participants scored low scores to the nutritional knowledge and the average nutrition score was 34%. Only 10% percent of participants used food guide pyramid to make nutrition choices and explained 79% of participants had positive attitudes towards the importance of eating a sport enhancing diet and indicated they had greater nutritional education. This research study encouraged to enhance knowledge of sports nutrition, and overall personal nutrition.

(Lisa M. & Diana, 2015) defines nutrition knowledge as follows. "knowledge of concepts and processes related to nutrition and health including knowledge of diet and health, diet and disease, foods representing major sources of nutrients, and dietary guidelines and recommendations"

### Dietary Habits

Athletes in general have special nutrient needs due to the additional demands of training and competition. Therefore, appropriate food intake to maintain good nutritional status is essential for athletes who exercise regularly. This includes proper meals at pre-training, during the training and post-training periods. According to, there are certain goals that need to be achieved to enhance sustained performance (D., N., V., B., & L., 1996).

In Sri Lanka, there is little information on the food habits and nutritional status of athletes. In basketball, there is no significant evidence to understand about the food habits, attitudes and behaviors of the players.

(Jimaima, Subramaniam, & Ketan, 2010) studied about the food habits and the nutritional status of the Fiji rugby players. This research study explained that rugby players had low level of attitude towards the nutrition and suggested to increase the awareness of the carbohydrate diet intake. It would be important for the sports players and thus boost energy supply during the competition.

### Problem Statement

Sri Lanka national men's basketball team is receiving relatively less recognition and achievements in the international arena, and this is probably due to several deficiencies in training and other factors. Not having proper body composition relevant to the type of sport and playing position, inadequate dietary intake, inappropriate attitudes and behaviors, inadequate nutrition knowledge could be some reasons for not reaching international achievements. Plenty of evidence is there to suggest that low energy availability may lead to the injuries, therefore the performance level of the basketball players is usually getting decreased. In order to maximize performance, basketball players should possess a good understanding on how the performance depends on each variable properly.

Though many researches have been conducted on how the nutritional knowledge, dietary habits towards the nutrient affects the athlete's performance in other sports, there are few that relate to the basketball, especially for national men's team in Sri Lanka. Though some researches have been conducted, findings are not enough to have a clear understanding and predict the present players' knowledge about nutrient and dietary habits that are dynamic in basketball. This research will help to improving the quality of the players to reach internationally-recognized standards with the limited resources available in Sri Lanka. Especially in Sri Lanka there may be huge changes in the player's performance due to the development that is going on. Thus, it is more essential to collect new knowledge on how national men's basketball players respond to the nutritional knowledge, dietary habits.

Therefore, this study examines "nutritional knowledge and dietary habits of national basketball men's team in Sri Lanka".

Accordingly, the main objective of the study is to determine the nutritional knowledge and dietary habits of national basketball men's team in Sri Lanka.

### Methodology

The study was conducted as a case study to examine the nutritional knowledge and dietary habits of national basketball players on nutrition. The sample was 30 national

men's basketball players selected from the national basketball ranking system of Sri Lanka.

The questionnaire contained 02 demographic questions including, age and playing position.

The data was gathered by using a standard questionnaire (Michelle, Laura, Clare, Sheila, & Ruth, 2011) to gather information on nutritional knowledge and of national basketball men's team in Sri Lanka. The questionnaire consisted of 32 questions categorized into five sections: position of play and training schedules, dietary and hydration practices, dietary habits toward nutrition and hydration, nutrition knowledge, and sources of nutritional information. Closed single-answer questions were predominantly used in all five sections. A 4-point Likert scale was used in the evaluation of nutritional attitudes in two questions.

The questionnaire was distributed among the participants through social media as a Google form.

### Data Analysis

For the demographic data that collected from questionnaire (such as age and playing position) present by bar charts and pie charts by using Microsoft excel sheet.

Data are expressed as frequencies and percentages.

### Results and Discussion

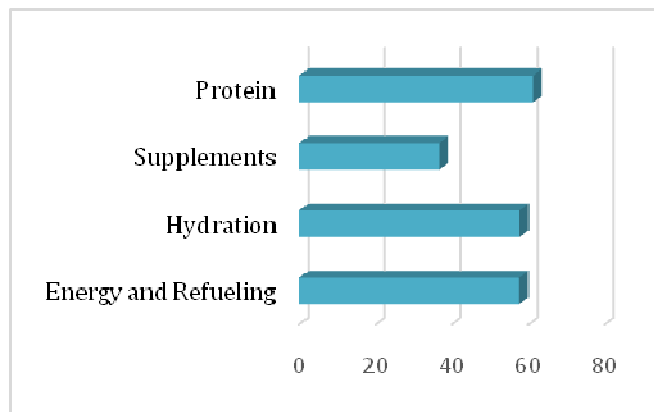
According to the data analysis, the national men's basketball team is consisting 17% of centers, shooting guards and power forwards, another 23% of small forwards and 26% of point guards. Altogether, most of the players were in above 25 age range and only 3 players reported in 20-21 age range. The participants spend 9.53% of average hours per week with swimming, pitch and fitness activities.

Table 1 shows the reliability statistics of all study variables. All data exceed Cronbach's Alpha level more than 0.7 and they are in the acceptable range.

**Table 1 Reliability Statistics**

Cronbach's Alpha	No: of Items
0.705	30

This study explained that players have a moderate level of nutrition knowledge (mean percent score was 53.3%). The nutrition knowledge scores focusing four areas (protein intake, supplements, hydration, energy and refueling) are summarized in Figure 1.



**Figure 1: Mean Knowledge scores of National Basketball Men's players**

The participants scored above 50% for areas related to proteins, hydration and energy and refueling, suggesting that

they have an adequate knowledge on these areas. However, the participants' knowledge of dietary supplements was inadequate (mean score was 36.6%).

The pattern of the food and fluid consumption and dietary habits of the participants is presented in Table 2.

**Table 2 The dietary habits of participants (N =30)**

Dietary Practices / Habits	Frequency	(%)
<b>Consuming a high-protein diet</b>		
Before the competition	16	53
After competition	21	70
<b>Consuming a high-carbohydrate diet</b>		
Before the competition	15	50
After competition	19	63
<b>Water consumption</b>		
Before	24	80
During	27	90
After	24	80
<b>Sports Drinks</b>		
Before	1	3
During	1	3
After	5	17
<b>Supplements usage</b>		
Protein	11	37
Vitamins and Minerals	11	37
Creatine	4	13
Other	3	10
<b>Alcohol Usage</b>		
Yes	14	46.7
No	16	53.3
<b>Consumption of food before a match/training</b>		
Within the 1hour before	11	36.7
< 1 hour before	19	63.3
<b>Consumption of food after a match/training</b>		
Within 30 minutes	13	43.3
< 30 minutes after	17	56.7

Nearly half of the players have consumed high protein and carbohydrate diet before and after the competition. The hydration practices were satisfactory, with 80-90% of players consuming water before, during and after the match or training. According to Table 2, only few players have consumed sports drinks. Supplement usage demonstrated equal proportions of participants consuming proteins and vitamin/mineral supplements. The majority of players consumed food more than 1 hours before a match or training, although players did not consume food within the first 30 minutes after a match or training.

According to results of the study, the majority of players had sufficient knowledge of protein, and their dietary practices regarding proteins were also satisfactory as shown in Table 2. In sports like basketball in which exercise lasts longer than one-hour, additional carbohydrates are needed to maintain a favorable blood glucose level and to reduce utilization of protein as an energy source (Louise, Bente, & John, 2004). The national basketball players in the current study demonstrated a moderate knowledge level about energy substrates and refueling practices and in parallel to their knowledge, their dietary practices regarding carbohydrate were also acceptable.

Similarly, most of the players consumed water throughout competitions/training. The participants' knowledge on hydration could be a reason for this healthy habit of consuming adequate amounts of water. However, although most of the players were aware that sports drinks should be consumed during exercise lasting more than one hour, only

3% of players consumed sports drinks during the period of match or training.

The widespread use of dietary supplements among national basketball men players was confirmed in this study. The most common dietary supplement used by players were protein, vitamins and minerals. However, the overall knowledge of supplement was inadequate.

Carbohydrates refueling immediately after the match or training is important because of glycogen storages are replenished efficiently within 30 minutes after exercise or training (Louise, Bente, & John, 2004) but 56.7% of players did not consume food immediately after exercises, irrespective of their moderate level of knowledge on refuelling.

### Conclusion

Nutrition knowledge can influence dietary choices, dietary practices and impact on athletic performance. It can be concluded that the players participated in this study showed a moderate level of nutritional knowledge. On average, players showed positive dietary habits except consumption of food within 30 minutes. Improved nutritional knowledge could be beneficial for practicing healthy food habits and improving performance, hence increasing athletes' nutritional knowledge through awareness programmes is recommended.

To minimized and overcome the negative issues, the researcher recommends following solutions and suggestions for increase the perceived performance of the national

basketball players through gaining proper nutritional knowledge and dietary habits.

- follow a proper diet plan that recommended by the nutritionist or a proper dietician.
- A program can conduct throughout the national players both in men and women and can increase the awareness about nutritional knowledge and dietary choices.

#### Recommendations for further studies

For identify the influence of the nutritional knowledge towards the players' performance, the researcher recommended to undertake future researches with covering a wider sample area by engaging both national men, women players and coaches. Furthermore, the researcher recommended to analyze athletes' body composition, macro and micro-nutritional intakes.

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